Virtual Mobile Tester Foundation
Course Outline

General Description

This course provides testers and test managers with an understanding of test fundamentals for mobile applications. Attendees will get a brief introduction to mobile testing, including how mobile app testing differs from testing PC, web-based, and client/server apps. Attendees will then learn how to apply and adapt proven best practices to test planning and design for mobile apps, in a hands-on, creative fashion, using actual mobile applications in a workshop setting. Attendees will outline tests for functional and non-functional characteristics such as performance, security, reliability, and usability, again using real apps for hands-on work. We'll look at the challenges associated with test environments, test data, and test automation, with attendees designing test environments, selecting simulators, identifying the wide range of test tools available for mobile projects, evaluating cloud-based testing options, and creating a keyword-driven test grammar to create automated regression tests for their chosen mobile app. Finally, attendees will develop a plan for future-proofing their testing, a major challenge in the fast-paced world of mobile apps.

This course is ideal for testers experienced with the development of web-based, PC, and client-server applications, entry-level testers with an interest in mobile testing, and experienced developers with a lot to a little knowledge of testing who work in mobile app development. Testers, test analysts, test engineers, test consultants, test managers, user acceptance testers, and software developers working on mobile apps will find this course useful, informative, and fun. We suggest that attendees hold the ISTQB Foundation Level certificate, especially if they intend to take the ASTQB Mobile Tester exam, but non-certificate holders can benefit from the course and take the exam.

By the end of this course, an attendee should be able to:

- Identify and mitigate the challenges that face a mobile application tester.

- Plan, design and implement appropriate test cases for mobile applications.

- Work with other team members to identify and assess risks and to implement a testing solution to help mitigate those risks.

- Identify the applicable quality characteristics for a mobile application and identify an appropriate testing approach to address those characteristics.

- Participate in tool analysis and selection to select the most appropriate tools for conducting mobile application testing.

- Identify areas for non-functional testing and prepare appropriate tests for those areas.

- Understand the differences between the various mobile application types and select appropriate tools, techniques and approaches to test those applications.

- Effectively employ simulators, emulators, the cloud, and real devices for testing.

- Participate in planning for the future, including proper tool selection and building for maintainability.

Created by Rex Black, President of RBCS, Inc. (www.rbcs-us.com), past President of the International Software Testing Qualifications Board (www.istqb.org), past President of the American Software Testing Qualifications Board (www.astqb.org), Chair of the ISTQB Agile Tester Working Group, and a reviewer of the ASTQB Mobile Tester Syllabus, this course is also ideal for testers and test teams preparing for certification. It covers the ASTQB Mobile Tester Syllabus 2015, and will be submitted for accreditation to the ASTQB in early 2016.

Learning Objectives

Through presentation, discussion, practice exam questions, and hands-on exercises, attendees will learn how to:

- Explain the expectations for a mobile application user and how this affects test prioritization

- Explain the challenges testers encounter in mobile application testing and how the environments and skills must change to address those challenges

- Summarize the different types of mobile applications

- Explain how equivalence partitioning can be used to select devices for testing

- Describe how some software development lifecycle models are more appropriate for mobile applications

- Explain why use cases are a good source of testing requirements for mobile applications

- Describe different approaches to risk analysis

- Explain how coverage goals will influence the level and type of testing to be conducted

- Describe how test analysts should take the device and application into consideration when creating test conditions

- For a given mobile testing project apply the appropriate test design techniques

- Recall the purpose of testing for the correctness of an application

- Explain the important considerations for planning security testing for a mobile application

- Summarize the concepts of perspectives and personas for use in mobile application testing

- Summarize how device differences may affect testing

- Explain the use of Teststorming for deriving test conditions

- Create a test approach that would achieve stated performance testing goals

- Recall aspects of the application that should be tested during performance testing

- Explain why real devices are needed when simulators are used for testing

- For a given mobile testing project, select the appropriate criteria to be verified with usability testing

- Explain the challenges for portability and reliability testing mobile applications

- Recall the expected capabilities for mobile application testing tools

- Explain the use of generic tools in testing mobile applications

- Recall the sources of data for a mobile application

- Explain the differences between browser-based and native device applications

- Explain why testing is not conducted entirely on real devices

- For a given mobile testing project, determine how and when to use simulators/emulators during testing

- Recall how to verify the reliability of a simulator/emulator

- For a given mobile testing project, determine how and when to use cloud-based testing

- Explain how the cloud can be used to support performance testing

- Explain the types of data a performance tool needs to be able to create and track
- For a given mobile testing project, select the appropriate tools and environments for testing
- Recall ways in which the mobile application and device market will expand
- Recall areas in which user expectations will increase
- Summarize the considerations for building a flexible testing framework
- Analyze a given mobile testing project and determine the appropriate activities to reduce maintenance costs while enabling wide product adoption
- Explain how lifecycle models are likely to change and how this will affect testing
- Recall the ways in which testers will need to adapt

Course Materials

This course includes the following materials, either as hardcopy or via electronic copy:

Name	Description
Course Outline	A general description of the course along with learning objectives, course materials, and an outline of the course topics, including approximate timings for each chapter.
Noteset	A set of approximately 200 PowerPoint slides covering the topics to be addressed.
ASTQB Mobile Tester Syllabus	The syllabus which forms the basis for the ASTQB's exam for mobile testers.
Foundation Mock Exam	A practice exam containing 40 questions and answers to provide a review of the ISTQB Foundation exam.
ISTQB Glossary	The latest glossary of terms used in software testing produced by the ISTQB.
Mobile Tester Sample Exam Questions	A complete set of questions for every learning objective in the ASTQB Mobile Tester Syllabus.

Name	Description
Exercise Solutions	Solutions for all exercises in the course (included in the noteset).
Mobile Tester Mock Exam	A practice exam containing questions and answers to assess your readiness for the ASTQB Mobile Tester exam.
Bibliography and resources	A set of further readings, Web sites, tools and other resources to help implement the concepts.

The printed course materials are provided in a binder in a way which makes it convenient for course attendees to remove portions as needed for reference; e.g., during exercises.

Session Plan

The virtual course is taught in a two or three day format. When run in two days, each day is about 180 minutes of class time, from 12:00 pm to 3:30 pm Central time. When run in three days, each day is about 120 minutes of class time, from 6:00 pm to 8:00 pm Central time. For accredited course offerings, material is covered as described. For custom courses, material may be deleted, added, or expanded upon as needed.

Please note that timings are approximate, depending on attendee interest and discussion. All of the lectures include either exercises, knowledge-check sample questions, or both.

The following shows this session plan in relationship to the chapters and sections of the ASTQB Mobile Tester Syllabus. The specific order in which topics are presented may vary to optimize the attendees' learning experience.

Introduction to the Course (30 minutes)

1 Introduction to Mobile Testing (75 minutes)

1.1 What is a Mobile Application

1.2 Expectations from Mobile Users

1.3 Challenges for Testers

1.4 Necessary Skills

1.5 Equipment Requirements

1.6 Lifecycle Models

2   Test Planning and Design (60 minutes)

2.1   Identify Functions and Attributes

2.2   Identify and Assess Risks

2.3   Determine Coverage Goals

2.4   Determine Test Approach

2.5   Identify Test Conditions for Mobile Testing

2.6   Regression Testing

3   Quality Characteristics for Mobile Testing (290 minutes)

3.1   Introduction

3.2   Functional Testing

3.3   Non-Functional Testing

4   Environments and Tools (285 minutes)

4.1   Tools

4.2   Environments and Protocols

4.3   Specific Application-Based Environment Considerations

4.4   Real Devices, Simulators, Emulators and the Cloud

4.5   Performance Test Tools and Support

4.6   Test Automation

5   Future-Proofing (135 minutes)

5.1   Expect Rapid Growth

5.2   Build for Change

5.3   Plan for the Future

5.4   Anticipating the Future

ASTQB Mobile Tester Exam (60 minutes)

Recommended Readings

The class materials include a bibliography of books related to software testing, mobile devices, products, and projects, quality, and other topics of interest to the test professional.